

CLAIMS:

1. A seabed anchor in the form of a caisson having a longitudinal axis and comprising a caisson side wall, an open caisson bottom and a closed caisson top that together
5 define an interior volume of the caisson, characterised by seabed soil retaining means for retaining seabed soil displaced during embedment of the anchor in seabed soil in a direction generally downwardly along said longitudinal axis such that the weight of seabed soil retained by the seabed soil retaining means adds to the force required to pull the embedded anchor out of the seabed.
- 10 2. An anchor as claimed in claim 1, characterised in that said anchor is provided with a fluid connection to the interior volume, whereby suction can be applied to cause embedment of the anchor in seabed soil.
- 15 3. An anchor as claimed in claims 1 or 2, characterised in that said seabed soil retaining means comprises at least one container having an opening arranged to admit seabed soil during embedment of the anchor in the seabed.
- 20 4. An anchor as claimed in any preceding claim, wherein said soil retaining means has a downwardly reducing external cross-section to minimise resistance to upward movement of seabed soil past the soil retaining means during embedment of the anchor.
- 25 5. An anchor as claimed in claim 4, wherein said soil retaining means comprises at least one conical hopper, having an apex oriented to penetrate the soil during embedment.
6. A suction anchor as claimed in any preceding claim, characterised in that the seabed soil retaining means is located entirely within the interior volume of the caisson.
- 30 7. A suction anchor as claimed in preceding claim, characterised in that the seabed soil retaining means is located adjacent the caisson top to receive and retain seabed soil displaced during latter stages of anchor embedment.

8. A method of embedding a seabed anchor as claimed in any preceding claim in a seabed composed of soil, characterised in that the method comprises the steps of:
deploying the anchor onto the seabed with the longitudinal axis of the anchor aligned
5 substantially in a predetermined direction such that an open lower end of the anchor, or
an opening in the lower end of the anchor, contacts the seabed soil, and applying forces
to the anchor directed generally downwardly along the longitudinal axis of the anchor
such as to force the anchor into the seabed soil and cause seabed soil to enter the
interior of the anchor eventually to displace seabed soil into the seabed soil retaining
10 means of the anchor whereby the anchor is embedded in the seabed substantially in said
predetermined direction and the weight of seabed soil retained in the seabed soil
retaining means adds to the force required to pull the embedded anchor out of the
seabed soil.

15 9. A method of embedding a suction anchor as claimed in claim 8, characterised in that
said applied force is derived by applying suction to the interior volume of the anchor.

10. A method as claimed in claims 8 or 9, characterised in that said predetermined
direction is substantially vertical.

20 11. A method as claimed in claims 8 or 9, characterised in that said predetermined
direction is partly vertical and partly horizontally directed in a selected bearing such as
to embed the anchor into the seabed substantially in a predetermined non-vertical
direction that optimises resistance of the so-embedded anchor to withdrawal by non-
25 vertical loads.

12. A gravity base comprising a single open-bottom, closed-top cell, characterised in
that said cell is provided with a seabed soil retaining means in like manner to the
seabed anchor as claimed in any of claims 1 to 7, such that the gravity base can be
30 embedded in fluent seabed soil.

13. A gravity base comprising a plurality of open-bottom, closed-top cells, characterised in that each said cell is individually provided with a respective seabed soil retaining means in like manner to the seabed anchor as claimed in any of claims 1 to 7, such that the gravity base can be embedded in fluent seabed soil.

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14. A method of embedding a gravity base as claimed in claims 12 or 13 in fluent seabed soil, characterised in that said method corresponds to the methods as claimed in any of claims 8 to 11.

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